

Attorney Docket No. P66567US0
Application No.: 09/957,458

Amendments to the claims:

This listing of claims replaces all prior versions, and listings, of claims in the application.

Listing of claims:

Claims 1-17 (canceled).

18 (new): A method for growing stem cells comprising the steps of

- providing a stem cell with a supporter cell selected from the group consisting of keratinocytic stem cells, lung and tracheal epithelial cells, bone marrow and hepatic stroma cells, neural-glial precursor cells, tissue cells, and "spore"-like stem cells,

the supporter cell being genetically modified by (i) a vector comprising a gene for interleukines, protooncogenes, oncogenes, cell cycle control genes, signal transduction genes, and/or cell based growth factors and (ii) a regulatable expression system, in order to provide externally regulatable interactions between the supporter cell and the stem cell

and
- applying an external signal for starting or stopping the interactions.

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19 (new): The method of claim 18 wherein the regulatable expression system is a tetracycline regulatable expression system.

20 (new): The method of claim 18 wherein the interactions are based on secretion or display of substances.

21 (new): The method of claim 18 wherein the supporters are modified for the secretion or display of substances under control of a promoter.

22 (new): The method of claim 18 wherein the external signal is the addition or removal of substances and/or heat.

23 (new): The method of claim 18, wherein the supporters form a micro-environment.

24 (new): The method of claim 18, wherein the supporters are secreting or displaying cell based growth factors, protein growth factors and/or interleukines.

25 (new): A supporter cell for the use in the method to claim 18, the supporter cell being selected from the group consisting of keratinocytic stem cells, lung and tracheal epithelial cells, bone

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marrow and hepatic stroma cells, neural-glial precursor cells, tissue cells, and "spore"-like stem cells,

- the supporter cell being genetically modified by (i) a vector comprising a gene for interleukines, protooncogenes, oncogenes, cell cycle control genes, signal transduction genes, and/or cell based growth factors and (ii) a regulatable expression system, in order to provide externally regulatable interactions between the supporter cell and the stem cell and,
- the supporter cell being genetically modified in order to provide a regulatable secretion and/or a display of substances of the supporter cell.

26 (new): A supporter cell for the use in the method to claim 18, the supporter cell being selected from the group consisting of keratinocytic stem cells, lung and tracheal epithelial cells, bone marrow and hepatic stroma cells, neural-glial precursor cells, tissue cells, and "spore"-like stem cells,

- the supporter cell being genetically modified by (i) a vector comprising a gene for interleukines, protooncogenes, oncogenes, cell cycle control genes, signal transduction genes, and/or cell based growth factors and (ii) a regulatable expression system, in order to provide externally regulatable interactions between the supporter cell and the stem cell and,

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- the supporter cell being genetically modified, genetically mutated, and/or modified using molecular and cellular breeding in order to change tet-on to tet-off and vice versa, to change oncogenicity, to change trans-lineage-commitment, and to change trans-species specificity.

27 (new): The supporter cell according to claim 26, wherein the change oncogenicity is SV40Tag to E6/E7, the change in trans-lineage-commitment is brain to skin, and the change in trans-species specificity is mouse to human.

28 (new): A cell line obtainable by transforming a cell with a vector,

- the cell being selected from the group consisting of keratinocytic stem cells, lung and tracheal epithelial cells, bone marrow and hepatic stroma cells, neural-glial precursor cells, tissue cells, and "spore"-like stem cells, and
- the vector comprising (i) a gene for interleukines, protooncogenes, oncogenes, cell cycle control genes, signal transduction genes, and/or cell based growth factors and (ii) a regulatable expression system.